

Serial No. 09/807658
Art Unit: 1742

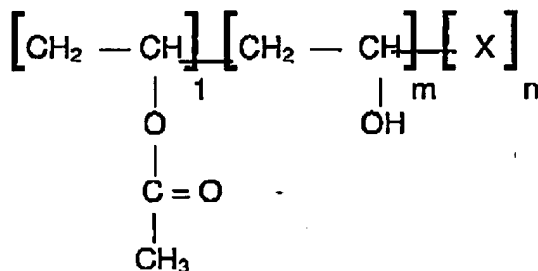
carboxyl groups, primary amino groups, secondary amino groups, tertiary amino groups and quaternary ammonium groups;

(C) a vanadium compound; and

(D) a compound containing at least one element selected from the group consisting of Zr and Ti;

wherein said agent is free of chromium.

10. (Amended) A hydrophilization agent according to claim 1 wherein component (A) comprises at least one member selected from the group consisting of polyvinyl alcohol polymers of general formula I



(I),

reaction products of the polyvinyl alcohol polymers of general formula I with diketenes, and mixtures thereof, wherein X is a copolymerizing unit other than vinyl acetate and vinyl alcohol, l is the copolymerizing number of moles of a vinyl acetate copolymerizing unit, m is the copolymerizing number of moles of a vinyl alcohol polymerizing unit, and n is the copolymerizing number of moles of copolymerizing unit X, and 1 and n may be zero.

25. (Amended) A hydrophilization agent obtained by combining with a solvent the following components:

- (A) a hydrophilic polymer having at least one functional group selected from the group consisting of primary amide groups, secondary amide groups, tertiary amide groups, hydroxyl groups and polyoxyalkylene groups;
- (B) a hydrophilic polymer having at least one ionic functional group selected

Serial No. 09/807658
Art Unit: 1742

from the group consisting of sulfonic acid groups, phosphonic acid groups, carboxyl groups, primary amino groups, secondary amino groups, tertiary amino groups and quaternary ammonium groups;

- 33
- (C) a vanadium compound; and
 - (D) a compound containing at least one element selected from the group consisting of Zr and Ti;

wherein said agent is free of chromium.

34

31. (Amended) A metallic material having a surface with a hydrophilic film thereon, said hydrophilic film comprising:

- (A) a hydrophilic polymer having at least one functional group selected from the group consisting of primary amide groups, secondary amide groups, tertiary amide groups, hydroxyl groups and polyoxyalkylene groups;
- (B) a hydrophilic polymer having at least one ionic functional group selected from the group consisting of sulfonic acid groups, phosphonic acid groups, carboxyl groups, primary amino groups, secondary amino groups, tertiary amino groups and quaternary ammonium groups;
- (C) a vanadium compound; and
- (D) a compound containing at least one element selected from the group consisting of Zr and Ti;

wherein said agent is free of chromium.

Please add the following new claims:

35. (New) A hydrophilization agent for metallic material, comprising:

- 35
- (A) a hydrophilic polymer having at least one non-ionic functional group selected from the group consisting of hydroxyl groups and polyoxyalkylene groups;
 - (B) a hydrophilic polymer having at least one ionic functional group selected from the group consisting of sulfonic acid groups, phosphonic acid groups, carboxyl groups, primary amino groups, secondary amino groups, tertiary amino groups and quaternary ammonium groups;